

REMARKS

Please consider the following comments. Following this response, claims 1-22 are pending. Applicant respectfully requests reconsideration and allowance of this application in view of the above amendments and the following remarks.

Priority

Applicant notes with appreciation the acknowledgement of the claim for priority under section 119 and the notice that all of the certified copies of the priority documents have been received.

Information Disclosure Statement

Applicant acknowledges and appreciates receiving an initialed copy of the form PTO-1449 that was filed on September 26, 2003.

Claim Objections

The Examiner objected to claims 1, 6, and 7 because of informalities. By this response, Applicant has amended these claims as suggested by the Examiner. Accordingly, Applicant respectfully requests that the Examiner withdraw these claim objections.

Claim Rejections – 35 U.S.C. § 103

The Examiner has rejected claims 1-3, 6, and 7 under 35 U.S.C. § 103(a) as being allegedly anticipated by United States Patent No. 4,034,232 to LaVenture (“LaVenture”) in view of United States Patent No. 5,691,870 to Gebara (“Gebara”). Applicant respectfully traverses this rejection.

Claim 1, as amended, recites “protection means provided for each of the constant voltage generating circuits to interrupt or limit an output of a supply voltage from the constant voltage generating circuit in which the abnormal condition was detected and the other of the first and second constant voltage generating circuits when the abnormal condition is detected.” An exemplary embodiment of this feature can be found on page 25, lines 16-25, and FIGs. 2 and 4 of Applicant’s specification.

As shown by this feature, when an abnormal condition detector circuit (e.g. the over-heat detector circuit 33) detects an abnormal condition in either one of the first and second constant voltage generating circuits, the protection means provided for each of the constant voltage generating circuits operates to interrupt or limit the output of a supply voltage not only from the constant voltage generating circuit in which the abnormal condition was detected, but the other of the first and second constant voltage generating circuits as well.

Furthermore, claim 1 also recites that “the abnormal condition detector circuit is provided in common for the first and second constant voltage generating circuits to interrupt or limit the output of the supply voltage in both of the constant voltage generating circuits when the abnormal condition is detected by the abnormal condition detector circuit while maintaining the input voltage.” An exemplary embodiment of this feature can be found in Applicant’s FIG. 1, where the input voltage V_1 is maintained even when an abnormal condition is detected and the first and second constant voltage generating circuits’ output is limited or interrupted.

The Examiner notes that LaVenture discloses a regulated power supply system including a plurality of switching regulators 20a-20e for the delivery of regulated power

to a variety of loads. (See, e.g., LaVenture, column 2, lines 56-59.) However, the Examiner acknowledges that LaVentura fails to teach or disclose of an abnormal condition detector circuit for detecting an abnormal condition in either one of the constant voltage generating circuits. The Examiner instead relies upon Gebara for this teaching.

Gebara discloses a voltage regulator and fault detection monitor 102 that receives a plurality of primary supply signals (i.e., a 12V signal, a 5V signal, a 3.3V signal, and a ground signal) from a main power supply 101. The voltage regulator and fault detection monitor 102, in turn, provides three secondary supply voltage signals (i.e., VCCP, VTT, VREF) to the CPU 100. (See, e.g., Gebara, column 3, lines 39-60, and FIG. 1.) In this circuit, if the voltage regulator and fault detection monitor 102 is removed, the circuit will activate conventional internal fault circuitry in the power supply 101, thus causing the power supply 101 to shut itself down. (See, e.g., Gebara, column 4, lines 1-12, and FIG. 1.)

In particular, if one of the secondary supply voltage signals exceeds an adjustable predetermined threshold voltage in the regulator 102 (which Applicant understands the Examiner considers to correspond to an abnormality being detected), then window comparator circuitry will produce a fault signal, which will activate an electronic switch or MOSFET connected between one of the outputs of the main power supply and ground. And since fault detection circuitry internal to the main power supply 101 is activated whenever one of the main power supply outputs is shorted to ground, this will cause the main power supply 101 to shut down. (See, e.g., Gebara, column 16, line 57, through column 7 line 5, and FIGs. 1, 3, and 5.)

However, this shuts down all of the voltages input to the voltage regulator and fault detection module 102. Thus, in contrast to what is recited in claim 1, Gebara fails to disclose an abnormal condition detector circuit that is provided in common for the at least two constant voltage generating circuits to interrupt or limit the output of the supply voltage in all of the constant voltage generating circuits when the abnormal condition is detected by the abnormal condition detector circuit while maintaining the input voltage, as required by claim 1.

Accordingly, even if cited reference Gebara was combined with cited reference LaVentura, as the Examiner suggests, such a combination would not disclose every element recited in claim 1.

Claims 2, 3, 6, and 7 depend variously from claim 1, and are allowable for at least the reasons given above for claim 1.

In addition, claim 2 recites that “the protection means interrupts or limits the output from the first and second switching regulators to interrupt or limit the output of the supply voltage, when the abnormal condition is detected by the abnormal condition detector circuit.” Nothing in LaVenture or Gebara, alone or in combination discloses or suggests this feature.

The Examiner asserts that this feature is shown by the voltage regulator and fault detection monitor 102 in Gebara. However, Gebara discloses a board-level fault circuit 103 that causes the entire power supply 101 to shut itself down. Gebara does not teach or suggest that the board-level fault circuit 103 interrupts or limits the output from the voltage regulator. Furthermore, Gebara only discloses a regulator, not a protection means

that interrupts or limits the output from multiple switching regulators, as required by claim 2.

Claims 6 and 7 depend from claim 2, and are allowable for at least the reasons given above for claim 2.

For the reasons given above, Applicant respectfully requests that the Examiner withdraw the rejection of claims 1-3, 6, and 7 under 35 U.S.C. § 103(a) as being allegedly unpatentable over LaVenture in view of Gebara.

The Examiner has rejected claims 4 and 8 under 35 U.S.C. § 103(a) as being allegedly anticipated by LaVenture in view of Gebara, and further in view of United States Patent No. 4,034,232 to Brasfield ("Brasfield"). Applicant respectfully traverses this rejection.

Claims 4 and 8 both ultimately depend from claim 1 and are allowable for at least the reasons given above for claim 1. Nothing in Brasfield cures the deficiencies in LaVenture and Gebara noted above.

For at least these reasons, Applicant therefore respectfully requests that the Examiner withdraw the rejection of claims 4 and 8 under 35 U.S.C. § 103(a) as being allegedly unpatentable over LaVenture in view of Gebara, and further in view of Brasfield.

Allowable Subject Matter

The Examiner objected to claims 5, 9, and 15 as being dependent upon a rejected base claim, but has indicated that they would be allowable if rewritten into independent form including all of the limitations of the base claim and any intervening claims. The Examiner indicated that claims 10-14, 16, and 17 were allowed.

Applicant respectfully acknowledges the allowability of claims 10-14, 16, and 17.

By this response, the Applicant has amended claim 15 to incorporate the limitations of claim 1, from which it depended. This places claim 15 in a condition that the Examiner has indicated is allowable.

As noted above, Applicant asserts that claims 4 and 8, from which claims 5 and 9 depend from, respectively, are allowable. Therefore, claims 5 and 9 are not dependent from rejected base claims and are allowable.

For at least these reasons, Applicant asserts that this places claims 5, 9-17 in a condition that the Examiner has indicated would be allowable.

New Claims

By this response, Applicant has added new claims 18-22. Applicant respectfully requests that the Examiner consider these new claims.

Applicant observes that new claim 20 corresponds to original claim 5 and new claim 22 corresponds to original claim 9, both of which were indicated to contain allowable subject matter.

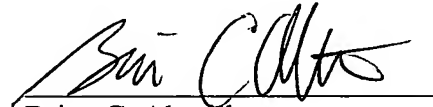
Conclusion

For all the reasons advanced above, the applicant respectfully submits that pending claims 1-22, as amended are allowable.

In view of the foregoing, the applicant respectfully submits that this application is in condition for allowance. A timely notice to that effect is respectfully requested. If questions relating to patentability remain, the examiner is invited to contact the undersigned by telephone.

Please charge any unforeseen fees that may be due to Deposit Account No. 50-1147.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Brian C. Altmiller", is written over a horizontal line.

Brian C. Altmiller
Reg. No. 37,271

Posz Law Group, PLC
12040 South Lakes Drive, Suite 101
Reston, VA 20191
Phone 703-707-9110
Fax 703-707-9112
Customer No. 23400